

09/652, 097

Cofc



PATENT
13DV13495

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.: 7,103,520

Issued: September 5, 2006

Inventor(s): Shaw et al.

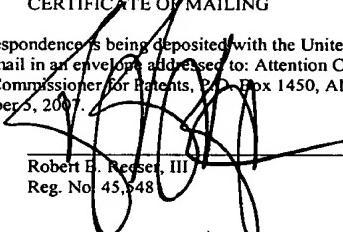
Assignee: General Electric Company

For: METHODS AND APPARATUS FOR
MODEL BASED SHROUDED BELLOWS
STIFFNESS DETERMINATIONS

OCT 11 2007
Certificate
of Correction

CERTIFICATE OF MAILING

I certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on October 5, 2007.


Robert E. Redder, III
Reg. No. 45,648

Attention Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CERTIFICATE OF CORRECTION OF
PATENT UNDER 37 C.F.R. 1.322(a)

Sir:

Attached is Form PTO/SB/44 suitable for printing.

Submitted herewith is a copy of the Notice of Allowance and Fee(s) Due and the Notice of Allowability dated June 2, 2006 including an Examiner's Amendment/Comment amending Claims 1, 2, 3, and 4. Applicants respectfully submit that the corrections shown below are in accordance with the Examiners Amendment/Comment dated June 2, 2006. The corrections thereof do not involve such changes in the patent as would constitute new matter or would require re-examination. Applicants respectfully request a Certificate of Correction for the following:

In Claim 1, column 4, line 44, delete "comprising the steps" and insert therefor -- comprising steps --.

OCT 11 2007

PATENT
13DV13495

In Claim 2, column 4, line 58, between "the" and "model" insert -- computer --.

In Claim 3, column 4, line 62, between "the" and "model" insert -- computer --.

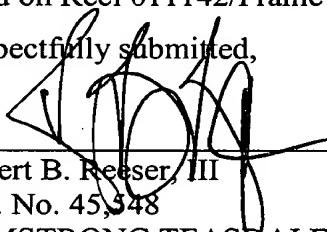
In Claim 4, column 4, beginning on line 66, between "the" and "model" insert --
computer --.

The corrections are not due to any error by Applicants and no fee is due.

The Assignment for this patent is recorded on Reel 011142/Frame 0271.

Date: Oct 5 2007

Respectfully submitted,



Robert B. Reeser III
Reg. No. 45,348
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,103,520
APPLICATION NO. : 09/652,097
ISSUE DATE : September 5, 2006
INVENTOR(S) : Shaw et al.

PAGE 1 OF 1

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In Claim 1, column 4, line 44, delete "comprising the steps" and insert therefor -- comprising steps --.

In Claim 2, column 4, line 58, between "the" and "model" insert -- computer --.

In Claim 3, column 4, line 62, between "the" and "model" insert -- computer --.

In Claim 4, column 4, beginning on line 66, between "the" and "model" insert -- computer --.

MAILING ADDRESS OF SENDER:

Robert B. Reeser, III
Armstrong Teasdale LLP
One Metropolitan Sq., Suite 2600
St. Louis, MO 63102

OCT 11 2007

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



OCT 09 2007
PTO-85
UNITED STATES PATENT AND TRADEMARK OFFICE

COPY

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

29399 7590 06/02/2006

JOHN S. BEULICK (12729)
C/O ARMSTRONG TEASDALE LLP
ONE METROPOLITAN SQUARE
SUITE 2600
ST. LOUIS, MO 63102-2740

EXAMINER	
STEVENS, THOMAS H	
ART UNIT	PAPER NUMBER
2123	
DATE MAILED: 06/02/2006	

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,097	08/31/2000	Mark Richard Shaw	13DV13495	2850

TITLE OF INVENTION: METHODS AND APPARATUS FOR MODEL BASED SHROUDED BELLOWS STIFFNESS DETERMINATIONS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$0	\$1400	09/05/2006

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

OCT 11 2007

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

Entered into PAGE/PIPS

Date 06-08-06

PTOL-85 (Rev. 01/06) Approved for use through 04/30/2007.

By: E. Deaton

Page 1 of 3

SCANNED

By: M.H. 6/8/06

ENTERED

Date: 6/5/06
By: MCC
12729-120



COPY

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,097	08/31/2000	Mark Richard Shaw	I3DV13495	2850
29399	7590	06/02/2006		
JOHN S. BEULICK (12729) C/O ARMSTRONG TEASDALE LLP ONE METROPOLITAN SQUARE SUITE 2600 ST. LOUIS, MO 63102-2740				EXAMINER STEVENS, THOMAS H
				ART UNIT 2123 PAPER NUMBER DATE MAILED: 06/02/2006

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 683 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 683 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OCT 11 2007



COPY

Notice of Allowability	Application No.	Applicant(s)
	09/652,097	SHAW ET AL.
	Examiner	Art Unit
	Thomas H. Stevens	2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to the pre-appeal conference 04/11/2006.
2. The allowed claim(s) is/are 1-4, 6, 7 and 9-12.
3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application (PTO-152)
6. Interview Summary (PTO-413),
Paper No./Mail Date _____
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.

OCT 11 2007



COPY

Application/Control Number: 09/652,097
Art Unit: 2123

Page 2

DETAILED ACTION

1. Claims 1-4, 6,7, 9-12 were examined.

Allowable Subject Matter

2. Claims 1-4, 6,7, 9-12 were allowed.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Charles Livingston (Reg. Num 53,933) on, 5/22/06:

- Claim 1, line 2, the word – the -- was deleted.
- Claim 2, line 2, after “the”, the word -- computer -- was inserted.
- Claim 3, line 3, after “the”, the word -- computer -- was inserted.
- Claim 4, line 3, after “the”, the word -- computer -- was inserted.

The following is an examiner's statement of reasons for allowance:

While Roesmount teaches (claims 1 and 7) natural frequency; Broman teaches (claim 7) a computer model of bellows and a processor (claim 7); US Patent 4,860,564 teaches stiffness multipliers (claims 1 and 7); and Derwent Week 197746 teaches

OCT 11 2007

COPY

Application/Control Number: 09/652,097
Art Unit: 2123

Page 3

shrouded bellows (claims 1 and 7), none of these references, taken either alone or in combination, with the prior art of record disclose a

(claim 1) "a computer-implemented method for predicting natural frequency responses...providing at least one tube sub-system included a plurality of shrouded bellows components...using a regression technique based on dynamic stiffness test data; imputing the determined stiffness multiplier... that applies a standard geometry element and a flexibility factor based upon the stiffness multiplier to predict a natural frequency response; and determining location for duct support,"

(claim 7) " apparatus for determining natural frequency response...using a regression technique based on dynamic stiffness test data...use the determined stiffness multiplier that applies a standard geometry element and a flexibility factor based upon the stiffness multiplier to predict a natural frequency response; and determining location for duct support,"

, in combination with the remaining elements and features of the claimed invention. It is for these reasons that the applicants' invention defines over the prior art of record.

OCT 11 2007

COPY

Application/Control Number: 09/652,097
Art Unit: 2123

Page 4.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).

If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Paul Rodriguez 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

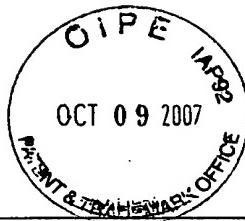
May 23, 2006

TS



Anthony Knight
Supervisory Patent Examiner
Group 3600

OCT 11 2007



COPY

Notice of References Cited	Application/Control No. 09/652,097	Applicant(s)/Patent Under Reexamination SHAW ET AL.	
	Examiner Thomas H. Stevens	Art Unit 2123	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,860,564	08-1989	Kaplan, Naum M.	72/14.4
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Derwent-Week: 197746 abstract, pg. 1.
	V	
	W	
	X	

OCT 11 2007

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



COPY

DERWENT-ACC-NO: 1977-K2769Y

DERWENT-WEEK: 197746

COPYRIGHT 2006 DERWENT INFORMATION LTD

TITLE: Heat insulated pipe connection - is attached to tank
through sleeve shrouded bellows cooled by atmospheric air

PATENT-ASSIGNEE: DENISOV V F[DENII]

PRIORITY-DATA: 1974SU-2068240 (October 18, 1974)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
SU 530993 A	November 29, 1976	N/A	000	N/A

INT-CL (IPC): F16L059/12

ABSTRACTED-PUB-NO: SU 530993A

BASIC-ABSTRACT:

The heat insulated pipe connection is suitable for use in contact with hot gases. The pipe (1) passes into the tank (2) through a sleeve (3) which is attached to the tank by means of a flange (7) embodying a seal (8). The sleeve has a bellows-type compensator (4) terminating in a profiled base (6) which is located by a bimetallic flange (5) welded to an extended sleeve passing to the tank.

Hot gas at a temperature of e.g. 800-900 deg.C, and flowing along the pipe (1), causes the air in the cavity 'A' formed by the surfaces of the pipe and the bellows-type compensator to heat up. Because the air cavity is connected to atmosphere, the heat readily passes to the surroundings. Heat absorbed by the base section (6) is transmitted through the bellows to the air cavity and is removed in the same way thereby insulating the container (2) completely.

TITLE-TERMS: HEAT INSULATE PIPE CONNECT ATTACH TANK THROUGH SLEEVE SHROUD

BELLOWS COOLING ATMOSPHERE AIR

DERWENT-CLASS: Q67

OCT 11 2007